

In analyzing this series of events, which constitute the "Hydrogen Bomb Decision," historians have focused primarily on the views and activities of scientists and civilian policy-makers who were the most visible actors in the drama,³ and whose papers or memoirs are readily available for public scrutiny.⁴ Newly declassified documents, however, reveal that the American military also played a significant role, and that its perspective on the hydrogen bomb question was very different from that of most civilians. Debates in civilian circles over development of thermonuclear weapons emerged largely in reaction to the Soviet atomic test of August 1949, which shattered the relative confidence the United States had enjoyed during four years of atomic weapons monopoly. Uniformed military planners analyzed the new weapon in the context of strategies for war with the Soviet Union, developed prior to the Soviet test. This essay will briefly describe the evolution of American plans for atomic war between 1945 and 1949 and show how these shaped the military's role in President Truman's H-bomb decision.⁵ It will complement existing studies and bring into sharper focus a major turning point in the strategic arms competition between the United States and the Soviet Union.

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As scholars have long been aware, the American military was deeply concerned about the power of Soviet conventional forces in the 1945-1950 period. The full dimensions of that anxiety can now be documented on the basis of newly declassified material. American military planners believed as early as December 1945 that rapid demobilization of its armed forces had left the United States able to defend only the Western Hemisphere, while carrying out occupation duties in Germany and Japan and small offensive operations overseas if necessary. The Soviet Union had only partially demobilized. Its army was judged capable of taking Western Europe (except for Great Britain), Turkey, Iran, the Persian Gulf, Manchuria, Korea, and North China in a mat-

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³ For major interpretations of the decision, see Warner R. Schilling, "The H-Bomb Decision: How to Decide Without Actually Choosing," *Political Science Quarterly*, LXXVI (March 1961), 24-46; Robert Gilpin, *American Scientists and Nuclear Weapons Policy* (Princeton, 1962), 64-111; Richard G. Hewlett and Francis Duncan, *A History of the United States Atomic Energy Commission*, Vol. II, *Atomic Shield, 1947-1952* (University Park, Pa., 1972), 362-409; Joyce Kolko and Gabriel Kolko, *The Limits of Power: The World and United States Foreign Policy, 1945-1954* (New York, 1972), 504-09; Paul Y. Hammond, "NSC-68: Prologue to Rearmament," in Warner R. Schilling, Paul Y. Hammond, and Glenn H. Snyder, *Strategy, Politics, and Defense Budgets* (New York, 1962), 267-78; Herbert F. York, *The Advisors: Oppenheimer, Teller, and the Superbomb* (San Francisco, 1976); and Stanley A. Blumberg and Gwinn Owens, *Energy and Conflict: The Life and Times of Edward Teller* (New York, 1976), 184-298.

⁴ See Dean Acheson, *Present at the Creation: My Years in the State Department* (New York, 1969), 345-49; R. Gordon Arneson, "The H-Bomb Decision," *Foreign Service Journal*, 46 (May 1969), 27-29, and (June 1969), 24-27, 43; U.S. Atomic Energy Commission, *In the Matter of J. Robert Oppenheimer: Transcript of Hearing Before Personnel Security Board, Washington, D.C., April 12, 1954 through May 6, 1954* (Washington, 1954); David E. Lilienthal, *The Journals of David E. Lilienthal*, Vol. II: *The Atomic Energy Years, 1945-1950* (New York, 1964), 580-634; and Lewis L. Strauss, *Men and Decisions* (Garden City, N.Y., 1962), 208-30.

⁵ Principal sources for this study were obtained through mandatory declassification review requests from 1975 to 1978 under Executive Order 11652 of 1972. They include planning papers of the United States Joint Chiefs of Staff (JCS), chief of staff of the air force, Office of the Chief of Naval Operations, and chief of staff of the army; selected files of the Office of the Secretary of Defense; and the NSC Atomic File, NSC Intelligence File, General File, and Subject File of the President's Secretary's File, and the Confidential File of the President's Official File at the Harry S. Truman Library.

ter of weeks or months. Although the United States had greater resources available for industrial mobilization than any other nation in the world, military planners were convinced that there would not be time enough to mobilize in the event of war.⁶ It seemed unlikely that the Soviet Union would initiate an armed conflict until it had at least partially recovered from damage suffered in World War II. But the American military could not ignore the threat posed by Soviet capability regardless of Soviet intentions. From 1945 on, the realization that the United States was unprepared to counter Soviet conventional forces shaped military strategy.

By June 1946, the Joint War Plans Committee of the JCS had arrived at an interim plan for reducing the difference between United States and Soviet military capabilities. The plan, code-named "Pincher," identified the atomic bomb as a "distinct advantage" in the strategic air offensive the committee proposed as "the principal initial effort against the U.S.S.R." in case of war. Massive secrecy surrounded the bomb, however, and very few planners were privy to information regarding either its capability or the number of weapons that might be available for use.⁷ The army air force plan, "Makefast," completed under "Pincher" in September 1946, did not include a nuclear weapons annex, although Deputy Chief of Air Staff for Research and Development, Major General Curtis E. LeMay, was asked to prepare an emergency plan outside of regular channels that was probably designed to serve this purpose.⁸

Military planners were initially uncertain how the atomic bomb could be used effectively to prevent the Soviet Union from taking Western Europe. The Russian transportation system, identified as "the most vital cog in the war machine of the U.S.S.R.," was too widespread to be vulnerable to attack. Bombing major industries such as steel, aircraft, and electric power would take too long to become effective. Only the Russian petroleum industry, vital to troop mobility, was considered possibly vulnerable to an air offensive, using either conventional or atomic weapons. As 67 percent of the Soviet petroleum industry was located in seventeen cities, planners quickly identified these as targets for atomic attack.⁹

⁶ For assessments of United States and Soviet capabilities, see CCS 092 U.S.S.R. (3-27-45) files for 1945-1950, Papers of the United States Joint Chiefs of Staff, RG 218 [National Archives]. See in particular JWPC 416/1 Revised, Jan. 8, 1946, section 3, and JCS 1924/2 [formerly JIC 435/12], Dec. 16, 1948, section 34, *ibid.* See also JCS 1888/2, April 1, 1950, in CCS 370 (5-25-48), section 2, *ibid.*; Michael S. Sherry, *Preparing for the Next War: American Plans for Postwar Defense, 1941-45* (New Haven, 1977), 198-219; and Samuel P. Huntington, *The Common Defense: Strategic Programs in National Politics* (New York, 1961), 33-47.

⁷ JWPC 432/7, June 18, 1946, in CCS 381 U.S.S.R. (3-2-46), section 2, Papers of the United States Joint Chiefs of Staff. For an example of the great secrecy surrounding the atomic bomb, see Memorandum, George A. Lincoln to the Distribution List, with enclosure, July 10, 1946, ABC 471.6 (17 Aug., 1945), section 10, Papers of the Army Staff, Records of the Plans and Operations Division, RG 319 [National Archives].

⁸ Air Plan for "Makefast," Oct. 10, 1946, PO 381 (10 September 1946), Papers of the Chief of Staff of the Air Force, RG 341 [National Archives]; Oral History Interview with Curtis E. LeMay by John T. Bohn, March 9, 1971 [Office of Air Force History, Washington] 1-2.

⁹ Air Plan for "Makefast," Oct. 10, 1946, PO 381 (10 September 1946), Papers of the Chief of Staff of the Air Force, 3-6, and attached Analysis of Target Systems, 1-7. For a list of targets, see JWPC 416/1, Revised, Jan. 8, 1946, CCS 092 U.S.S.R. (3-27-45), section 3, and JPS 789/1, April 13, 1946, CCS 381 U.S.S.R. (3-2-46), section 1, Papers of the United States Joint Chiefs of Staff.

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American military planners recognized that bombing cities would have considerable shock value, but most believed that this alone would not bring victory. As a June 1946 air staff study noted:

It is assumed that if sufficient force were applied in a short enough period of time against the major cities of a modern nation, a morale collapse would end the war. This force has never been calculated and there is grave doubt that we could counter attack on such a target system with decisive effect even assuming [in the event that both sides had atomic bombs] we were not seriously crippled by the first blows of the enemy. Also a dictator nation might calculate that we could still be beaten even if we did destroy its cities.¹⁰

The question of how much force would be sufficient was crucial. The American nuclear weapons stockpile and delivery capability at this time was minimal. Although the number of bombs remains classified, General Carl Spaatz recalled that there were only about a dozen during most of his tour as army air forces commanding general and air force chief of staff from February 1946 to April 1948.¹¹ In addition, only twenty-seven B-29 bombers modified to carry the atomic bomb existed in January 1946, all in the 509th Bomb Group at Roswell Army Air Force Base in New Mexico. Only five more B-29s were available for atomic operations two years later.¹² No military bomb assembly team was ready until December 1947 to replace the civilian teams that had disbanded in 1946. This was at a time when all bombs in the stockpile were unassembled, and it took twenty-four men nearly two days to prepare one weapon for combat.¹³

The low level of nuclear readiness during 1946 and 1947 resulted from technical and administrative problems that plagued Major General Leslie R. Groves' Manhattan Engineer District (MED) from September 1945 on, as peacetime constraints of "efficiency and economy" were imposed. Production of uranium-235, which had fueled the Hiroshima gun-type weapon, leveled off after the war as uneconomical processing facilities at Oak Ridge, Tennessee, were replaced by a smaller number of more efficient plants. Production of plutonium, which had fueled the much more efficient Nagasaki implosion bomb, actually decreased, despite its higher priority. The three plutonium production reactors at Hanford, Washington, were experiencing severe

¹⁰ Earl E. Partridge to secretary general of the Air Board, June 7, 1946, Hugh Knerr File, Box 276, Carl Spaatz Papers (Library of Congress).

¹¹ Noel Francis Parrish, "Behind the Sheltering Bomb: Military Indecision from Alamogordo to Korea" (doctoral dissertation, Rice University, 1968), 133-34, 145. Information in letters to the author from John A. Griffin, Oct. 15, 1975, and Edward B. Giller, Feb. 5, 1976, of the United States Energy Research and Development Administration, indicates that there were no more than twenty-nine weapons in the American nuclear stockpile in July 1947.

¹² Hoyt S. Vandenberg to Ira Eaker, Jan. 2, 1946, Exhibit 45, *Strategic Air Command History*, 1946 (Albert F. Simpson Historical Research Center, Maxwell Air Force Base, Ala.); JCS 1745/5, Dec. 8, 1947, CCS 471.6 (8-15-45), section 8, Papers of the United States Joint Chiefs of Staff. In January 1948, the 509th Group was based at Kirtland Air Force Base near Albuquerque, N.M., and Los Alamos.

¹³ Report to the president from the Atomic Energy Commission, Jan. 1-April 1, 1947, April 3, 1947, Atomic Energy-Reports folder, NSC Atomic File, President's Secretary's File; JCS 1745/5, Dec. 8, 1947, CCS 471.6 (8-15-45), section 8, Papers of the United States Joint Chiefs of Staff. Bomb assembly was described by retired Vice Admiral John T. Hayward in interviews, July 15, 1975 and June 4, 1976.

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presented its detailed, final report to the assembled leadership of the nation's armed services. LeMay summarized the report's central conclusions, which reflected a significantly upgraded evaluation of the weapon's potential power:

(1) Atomic bombs *in numbers conceded to be available in the foreseeable future* can nullify [sic] any nation's military effort and demolish its social and economic structures.

(2) In conjunction with other mass destruction weapons *it is possible to depopulate vast areas of the earth's surface, leaving only vestigial remnants of man's material works.*

(3) The atomic bomb emphasizes the requirement for the most effective means of delivery. *In being there must be the most effective atomic bomb striking force possible.*¹⁹

The Bikini board also concluded that because of the scarcity of fissionable material the bomb would have to be used as a "strategic" weapon against urban industrial targets and not—except in extraordinary situations—against naval vessels or troop concentrations.

The board recommended that in the absence of "acceptable guarantees of permanent peace" the United States should continue developing improved atomic weapons, initiate "continuing selection of atomic bomb targets," begin work on civil defense measures against possible attack, and develop an intelligence system capable of monitoring an enemy's progress toward nuclear readiness; and that Congress should redefine "aggressive acts" so as to prepare for the possibility that a preemptive strike by the United States might be necessary to defend against a nuclear armed enemy.²⁰ The JCS evaluation board report did not convince American military planners that use of the atomic bomb would be decisive in the event of war. But it did increase the military's confidence in the weapon's capability and, by making information about it more generally available, assured it a central role in future strategic planning.

In October 1947, the Joint Strategic Survey Committee reported back to the JCS on long-term requirements for nuclear weapons production. Based on its recommendations, the JCS informed the chairman of the AEC that "a military requirement exists for approximately 400 atomic bombs of destructive power equivalent to the Nagasaki type bomb."²¹ Such a stockpile would be "satisfactory until such time as any possible enemy country possesses atomic weapons in quantity and an air force capable of launching a massive attack on the United States."²² Dropped on approximately 100 urban targets, the stockpile might be adequate to implement the chilling concept of "killing a nation"

¹⁹ LeMay to Carl Spaatz (ca. July 28, 1947), OPD 384.3 (17 August 1945), section 8, Papers of the Chief of Staff of the Air Force. See also JCS 1691/10, Dec. 29, 1947, CCS 471.6 (10-16-45), section 9, part 2, Papers of the United States Joint Chiefs of Staff.

²⁰ JCS 1805, Sept. 23, 1947, CCS 471.6 (10-16-45), section 9, part 1, Papers of the United States Joint Chiefs of Staff. Most of the board's recommendations were implemented, except for the redefinition of "aggressive acts" to prepare for a possible preemptive strike. The Bikini board's recommendations were dropped from consideration on January 9, 1950. See JCS 1805/7, June 15, 1948, and JCS 1805/18, Jan. 9, 1950, CCS 471.6 (10-16-45), section 9, parts 2 and 3, *ibid.*

²¹ Leahy to chairman, Atomic Energy Commission, Oct. 29, 1947, CCS 471.6 (8-15-45), section 7, *ibid.*

²² Decision on JCS 1745/7, Dec. 17, 1947, CCS 471.6 (8-15-45), section 8, *ibid.*

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forces and prerogatives against the onslaughts of unification, technological challenge, and the apparent dominance of land-oriented strategic concepts for future war. By summer 1948 it had become apparent that not only the navy's role, but its entire understanding of strategy and warfare, was being threatened: war between armed forces was being replaced by war against supporting civilian populations.³² Following the 1948 budget cuts, Rear Admiral Daniel V. Gallery, the assistant chief of naval operations for guided missiles, summed up the navy's doubts about this emerging philosophy:

... 2) For a "civilized society" like the United States, the broad purpose of a war cannot be simply destruction and annihilation of the enemy. At best this could merely be a means towards the end of forcing him to cease resistance and comply with our wishes. "T. J. J. J."

3) The above idea is elementary, but in my opinion many of our military planners are losing sight of it. They seem to feel that if we ever have another war, the only objective will be "Not to lose it" and so they have adopted the Douhet concept of flattening the enemy's cities from the air.

4) If our only objective in war is to avoid military defeat while the shooting is going on, then perhaps a Douhet war is the easiest way to accomplish the objective.

5) However, even this kind of war is not as simple as the prophets of the ten day atomic blitz seem to think. Some authorities estimate that the damage done by strategic bombing of Germany was equivalent to 500 Atomic Bombs. But Germany did not surrender until her armies were defeated. This damage is costing the U.S. huge sums of money now. In addition, levelling large cities has a tendency to alienate the affections of the inhabitants and does not create an atmosphere of international good will after the war.

6) A strategy based on the sole object of preventing defeat in war is an unworthy one for a country of our strength. It is a strategy of desperation and weakness. I believe we should abandon the idea of destroying enemy cities one after another until he gives up and find some better way of gaining our objective.³³

By fall 1948 many air force planners had come to believe that the atomic air offensive would be adequate to achieve victory. LeMay, who assumed command of the Strategic Air Command (SAC) in October 1948, immediately set to work preparing a feasible strategic plan for atomic operations against the Soviet Union. His plan, SAC Emergency War Plan 1-49, called for SAC "to increase its capability to such an extent that it would be possible to deliver the entire stockpile of atomic bombs, if made available, in a single massive attack." When combined with JCS targeting requirements, as spelled out in war plan "Trojan," the SAC plan entailed strikes on seventy Soviet urban target areas with 133 atomic bombs within thirty days.³⁴ Primary objectives would

³² See David A. Rosenberg, "The Search for Maturity in American Postwar Air Doctrine and Organization: The Navy Experience," *Air Power and Warfare: The Proceedings of the Eighth Military History Symposium, United States Air Force Academy, 18-20 October, 1978*, ed. Alfred F. Hurley and Robert C. Ehrhart (Washington, 1979).

³³ Daniel V. Gallery to the deputy chief of naval operations [air], Jan. 17, 1949, MLC-AEC folder, Box 8, Papers of Vice Admiral Ralph Ofstie (Operational Archives, Naval Historical Center, Washington). The term "Douhet war" refers to the kind of bombing campaign against enemy cities and populations espoused by Italian strategist Giulio Douhet.

³⁴ Thomas S. Power to chief of staff, U.S. Air Force, April 1, 1950, OPD 381 SAC (23 March 1949), TS, section 2, Papers of the Chief of Staff of the Air Force. For bomb numbers and targets, see JCS 1952/11, Feb. 10, 1950, Weapons Systems Evaluation Group Report 1, CCS 373

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³⁵ JCS 1952/1, Dec. 21 Joint Chiefs of Staff. See a (12-1-47), section 1, *ibid.*

³⁶ SAC Aircraft Status History, 1949, Vol. VII: 1745/18, Dec. 2, 1948, C of Staff.

³⁷ JCS 1823/6, Aug. 18; 12, Papers of the United Energy Commission, II, 1 15, Papers of the United St

³⁸ JCS 1823/11, Dec. 28

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